Name		
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Practice 1		

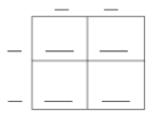
Sex-Linked Traits Practice 1

***Remember for sex-linked traits you write the alleles as the sex chromosome they are found on, with the allele for the trait as an exponent of the chromosome. (Ex. X^R and X')

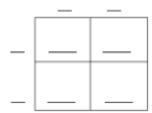
1. In fruit flies, eye color is a sex linked trait on the X chromosome. Red is dominant to white. What are the sexes and eye colors of flies with the following genotypes?

Trial are the dexectand eye colore or most with the following genetypes.		
Genotype	Sex of Fruit Fly	Eye Color of Fruit Fly
X ^R X ^r		
X^RX^R		
XrXr		
X'Y		
X ^R Y		

- 2. What are the possible genotypes of the fruit flies listed below?
 - White eyed, male _______
 - White eyed, female _______
 - Red eyed, female _______
- 3. Show a cross of a white eyed female $(X^{r}X^{r})$ and a red eyed male $(X^{R}Y)$.



- 4. Show a cross between a pure breeding red eyed female and a white eyed male.
 - What are the genotypes of the parents? _____ and _____
 - Show the cross in the space below.



- What is the probability of the offspring being a white eyed male?
- What is the probability of the offspring being a white eyed female? _____
- What is the probability of the offspring being a red eyed male?
- What is the probability of the offspring being a red eyed female?

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In humans, hemophilia is a sex-linked recessive trait. Females can be normal, carriers, or have the disease. Males will either have the disease or not (but they won't ever be carriers). Show a cross of a man who has hemophilia with a woman who is a carrier.
What is the probability that their children will have the disease?
A woman with hemophilia marries a normal man and wants to have children. Show the cross below.
 What is the probability that their female children will have hemophilia? What is the probability that their male children will have hemophilia?
In humans, the alleles for normal color vision and red-green colorblind vision are found on the X chromosome. Normal color vision is dominant over red-green colorblind. Write the genotypes for each of the following phenotypes listed below. • Female with normal vision that is not a carrier • Female that is a carrier • Female that is colorblind • Male with normal vision • Male that is colorblind
A woman with normal vision marries a man that is colorblind. They have three children, one daughter and two sons. • What are the possible genotypes of the father? • What are the possible genotypes of the mother? • Show a cross for each of the possible combinations between the father & mother. • One son is colorblind and the other son & the daughter have normal vision. What are the actual genotypes of the parents? and

• How do you know that these are the correct genotypes for the parents?